



Radial Cement Bond Log
Gamma-Ray
CCL

Company KERR-McGEE OIL & GAS ONSHORE LP
Well BLUFFS RED W 5-5
Field WATTENBERG
County WELD
State COLORADO

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Field WATTENBERG
County WELD State COLORADO

Location: API # : 05-123-16592
SW / NW
LAT: 40.16890 & -104.80680
SEC 5 TWP 2N RGE 66W
Permanent Datum GL KB 10' Elevation 4873'
Log Measured From KB
Drilling Measured From KB
Other Services
K.B. 4883'
D.F. 4882'
G.L. 4873'

Date

10-26-2015

Run Number ONE
Depth Driller 7560'
Depth Logger 4743'
Bottom Logged Interval 4740'
Top Log Interval SURFACE
Open Hole Size 7 7/8"
Type Fluid WATER
Density / Viscosity 1.0
Max. Recorded Temp. N/A
Estimated Cement Top 3953'
Time Well Ready N/A
Time Logger on Bottom N/A
Equipment Number 4495
Location GREELEY
Recorded By M. JANDREAU
Witnessed By Dave Donoho

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE							
TWO							

	Size	Wgt/Ft	Top	Bottom
Casing Record				
Surface String	8 5/8"	24#	0	509'
Prot. String				
Production String	3.5	9.3#12.95#	9.3# 0/4744'	12.95# 4744'/7558'
Liner				

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

NOT CORRELATED
RAN LOG TO VERIFY CEMENT TOP
CALIBRATED FREE PIPE AT 2900' AT 81 Mv

THANK YOU FOR USING WARRIOR.

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
CENT	18.91					

Tool Joint	Length (ft)	Weight (lb)	O.D. (in)	Notes
HEADVOLT	16.08			
RBT	16.08			
IntTemp	14.66			
WVFS3FT	11.41			
WVFCAL	11.41			
WVFS1	11.41			
WVFS2	11.41			
WVFS3	11.41			
WVFS4	11.41			
WVFS5	11.41			
WVFS6	11.41			
WVFS7	11.41			
WVFS8	11.41			
WVFS5FT	10.41			
CNLSC	6.00			
CNSSC	5.17			
GR	4.33			
CCL	3.64			
GR	0.90			
PTS275	2.83	2.75		
RBT-Probe (Base)	8.92	2.75	90.00	Probe Radii Bond Tool with Digital Telemetry
CNT-Probe_B (275)	2.83	2.75	40.00	6 bow centralizer
GR-Probe (275)	4.33	2.75	30.00	Probe 2.75"

Dataset:

Total Length:

Total Weight:

O.D.

bluffs red w 5-5.db: field/well/run1/pass4

18.91 ft

160.00 lb

2.75 in

Gamma Ray Calibration Report

Serial Number: 275
 Tool Model: Probe
 Performed: Fri Nov 07 09:08:01 2014

 Calibrator Value: 120.0 cps

 Background Reading: 30.0 cps
 Calibrator Reading: 210.0 cps

 Sensitivity: 1.1000 cps/cps

Compensated Neutron Calibration Report

Serial Number: 275
 Tool Model: Probe_B

CALIBRATION Wed Jul 30 08:47:19 2008

Detector	Readings	Target	Normalization
Short Space	5001.20 cps	0.00 cps	1.0000
Long Space	1029.31 cps	0.00 cps	1.0000

PRE-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	
3)	Short Space	cps		
	Long Space	cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	pu
3)	Short Space	cps		
	Long Space	cps	pu	pu

Segmented Cement Bond Log Calibration Report

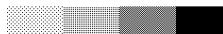
Serial Number: Base
 Tool Model: Probe

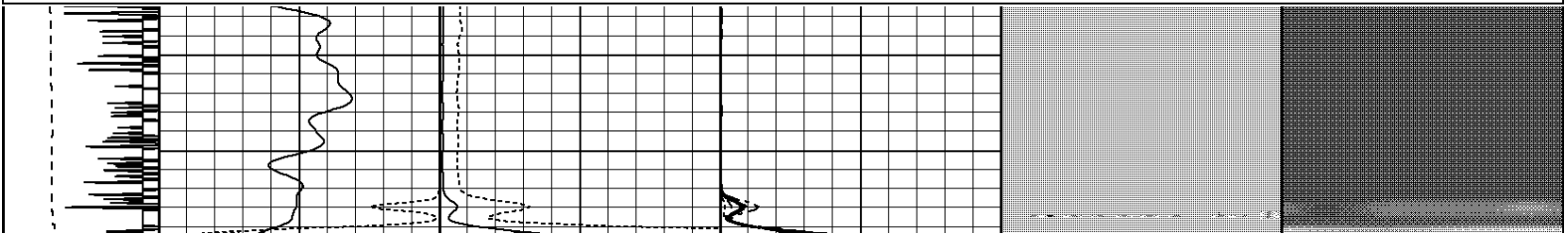
 Calibration Casing Diameter: 3.500 in
 Calibration Depth: 1245.300 ft

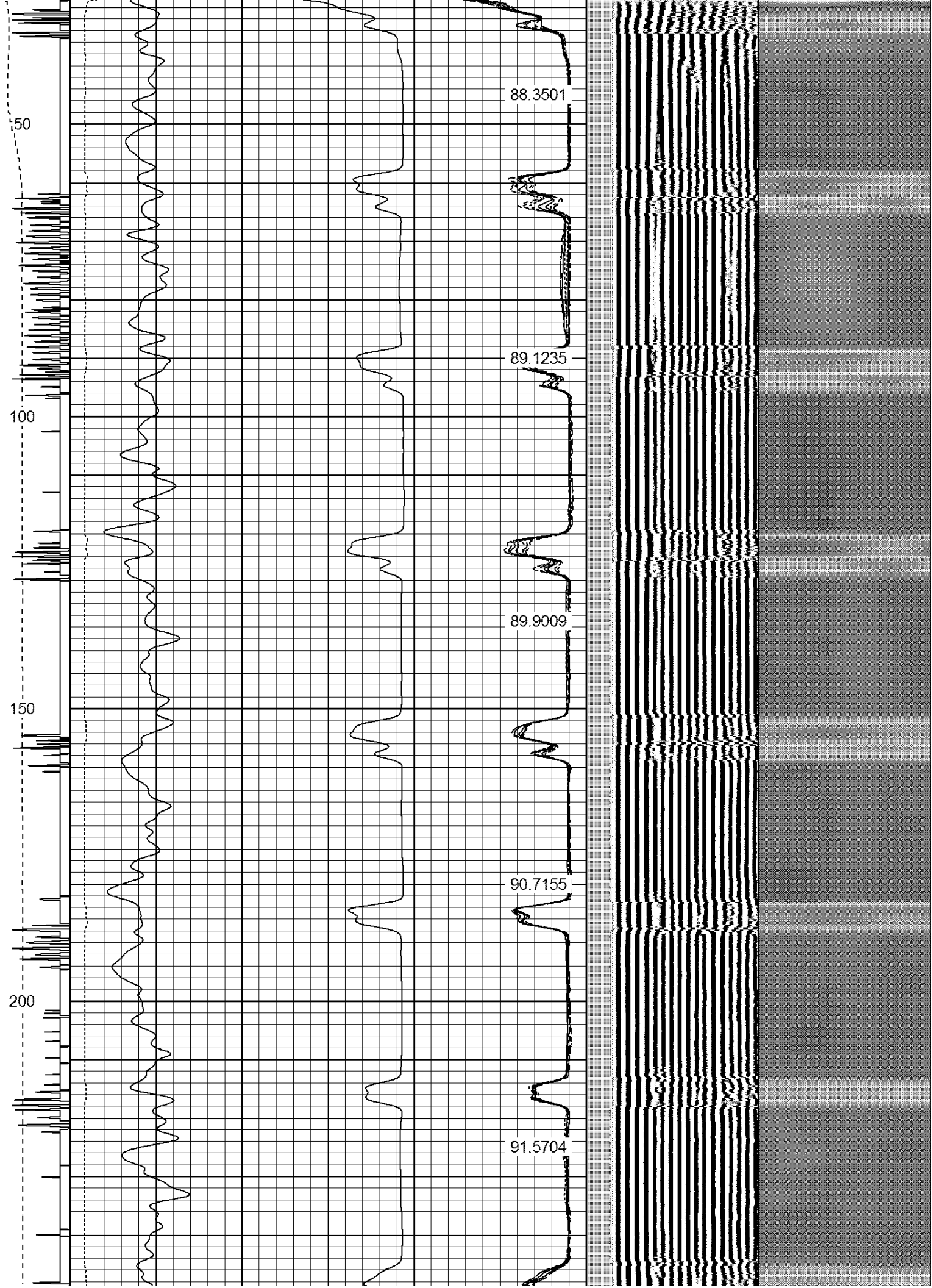
Master Calibration, performed Mon Oct 26 17:17:21 2015:

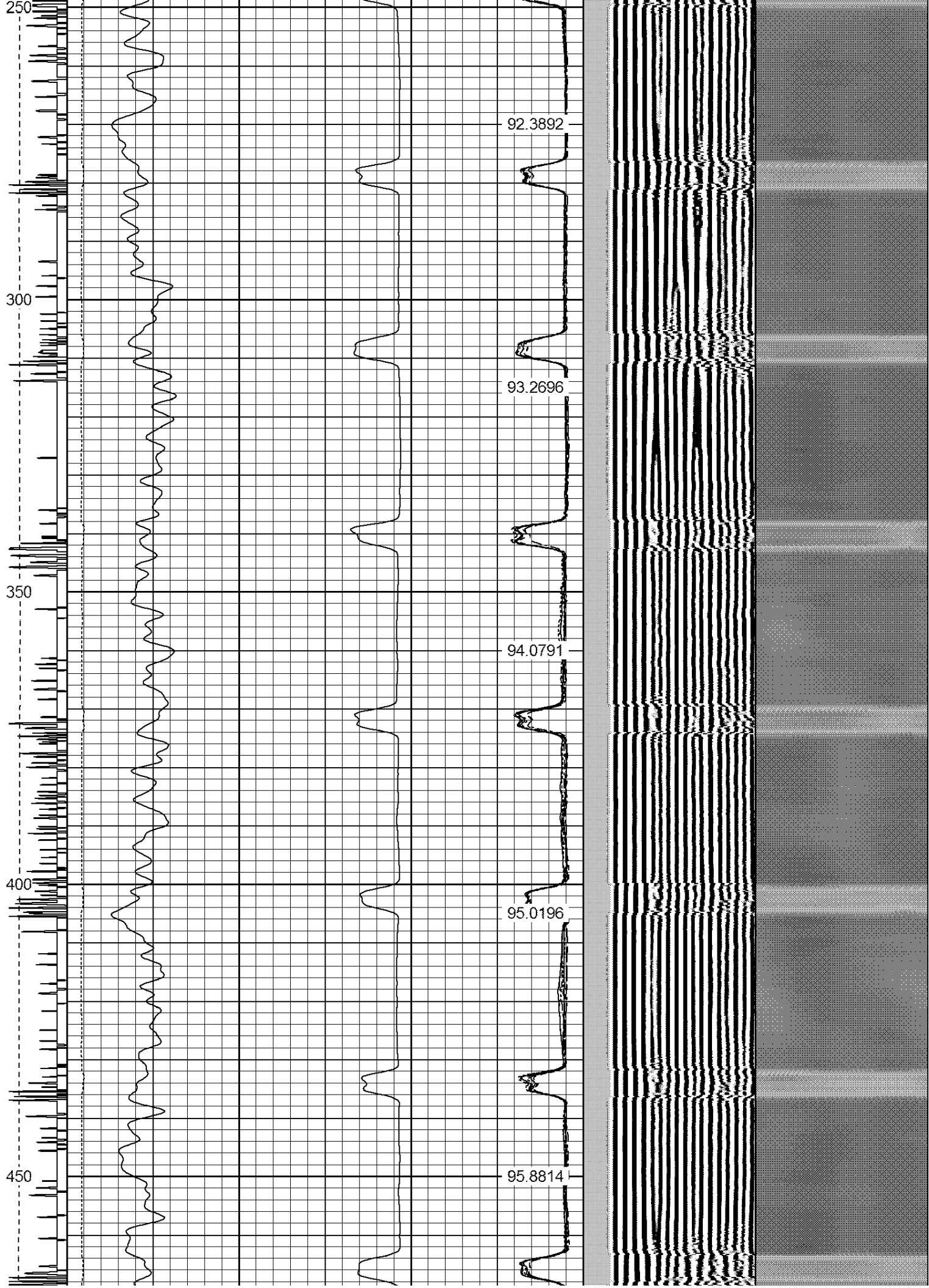
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.003	2.399	1.500	94.517	38.838	1.364
CAL	1.039	2.500				

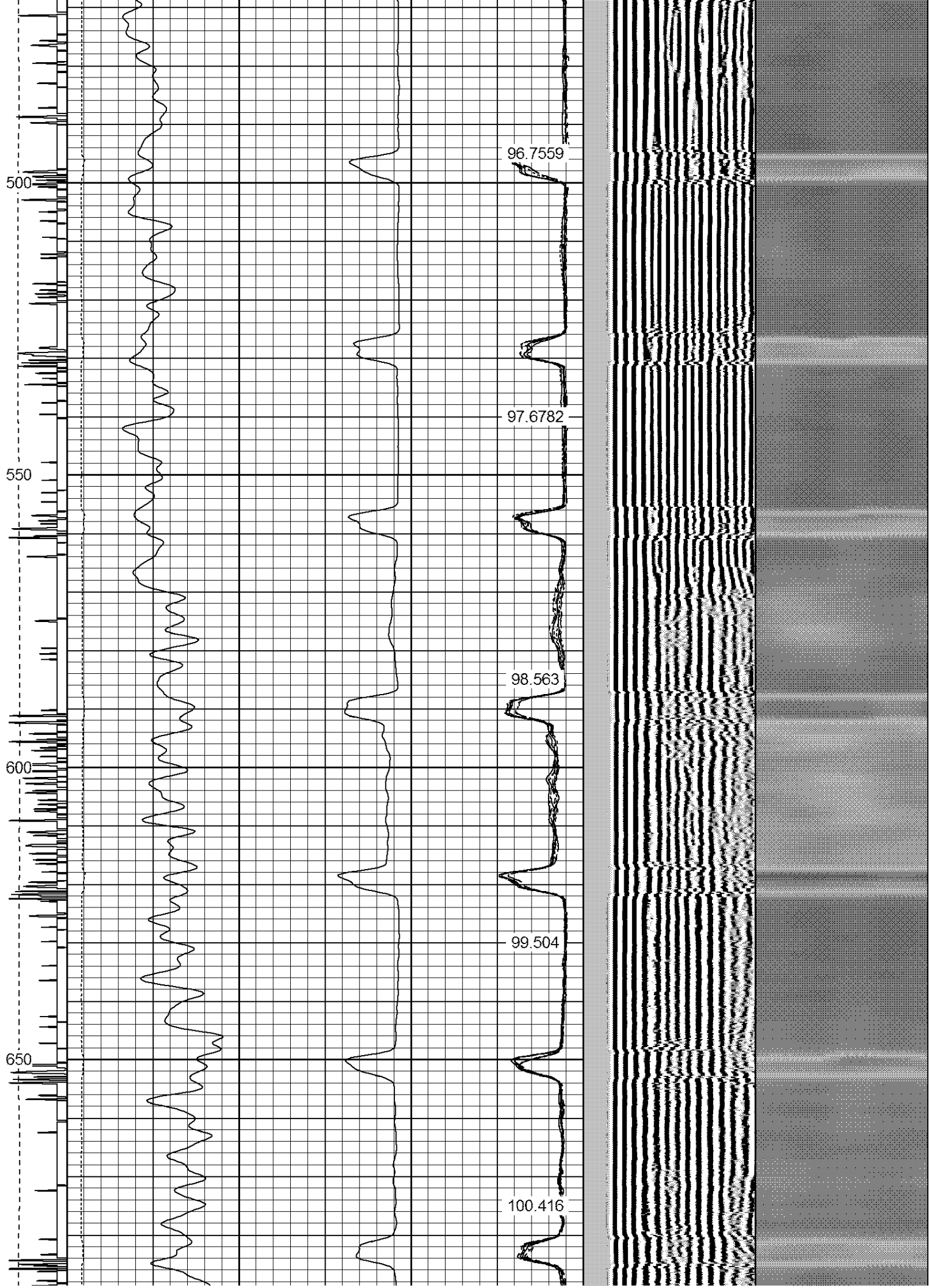
Internal Reference Calibration, performed Tue Jun 05 07:53:42 2012:						
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	1.039	2.500	1.000	0.000

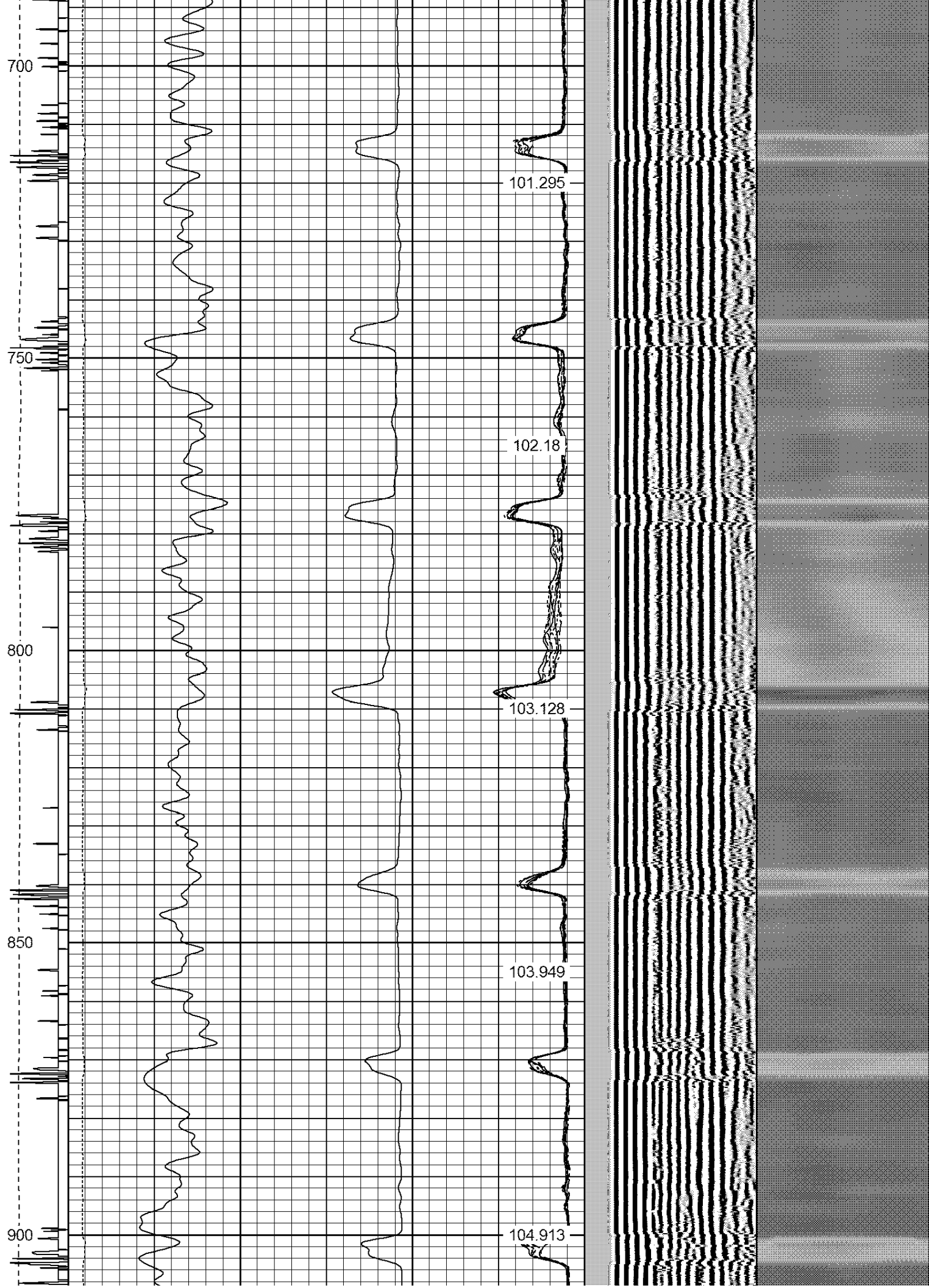
Database File: bluffs red w 5-5.db																			
Dataset Pathname: pass4																			
Presentation Format: ips_rbt																			
Dataset Creation: Mon Oct 26 17:48:44 2015 by Log 7.0 B1																			
Charted by: Depth in Feet scaled 1:240																			
-9	CCL	1	200	TT (usec)	800	0	AMP (mV)	100	0	AMPS1	100	200	VDL	1200	1	Cement Map	8		
LSPD (ft/min)			0	GR (cps)	200	0			AMPx5 (mV)	20	0	AMPS2	100					1	100
			200	GR (cps)	400				0	AMPS3	100								
0250									0	AMPS4	100								
									0	AMPS5	100								
									0	AMPS6	100								
									0	AMPS7	100								
									0	AMPS8	100								
									IntTemp (degF)										

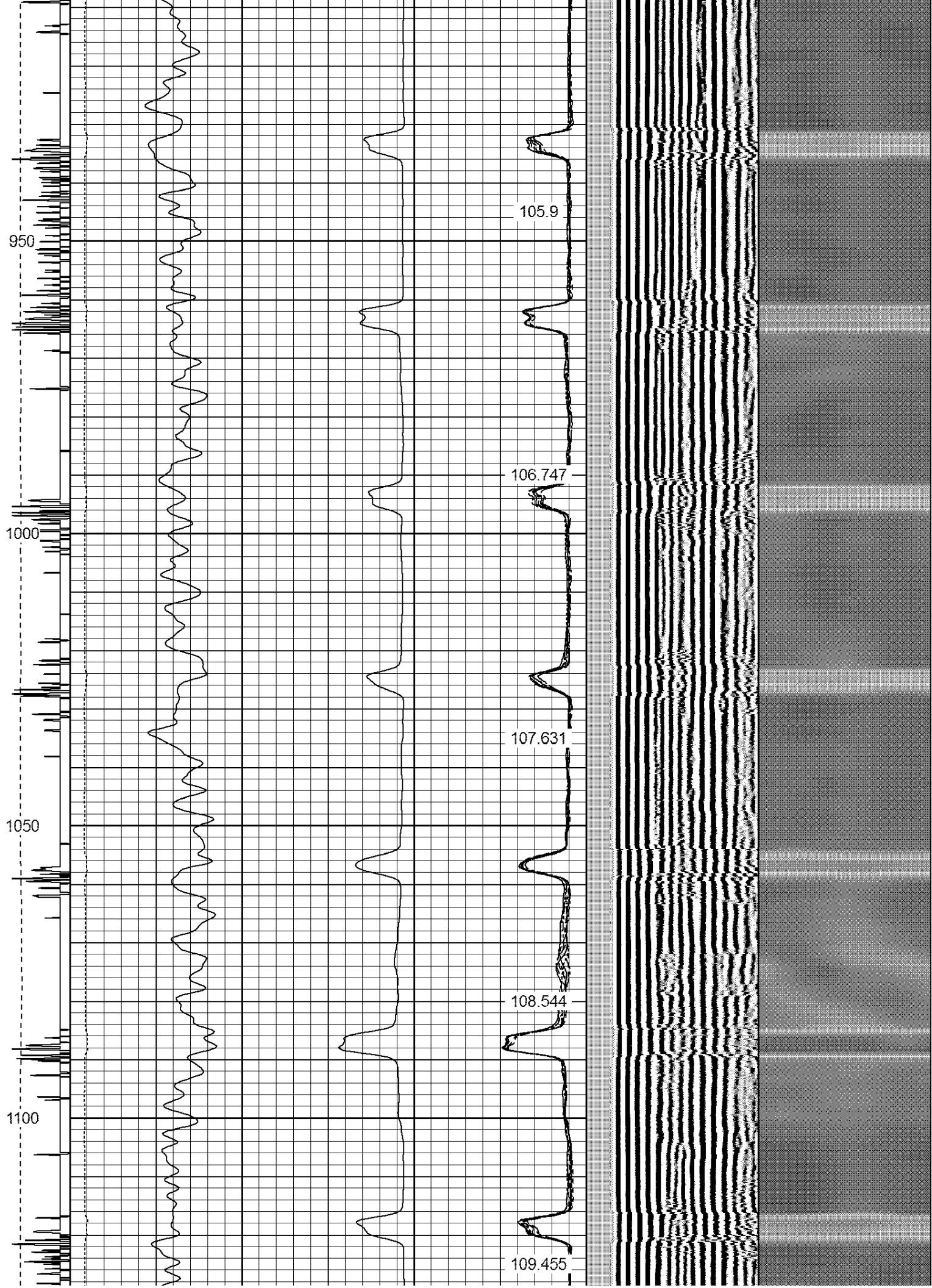






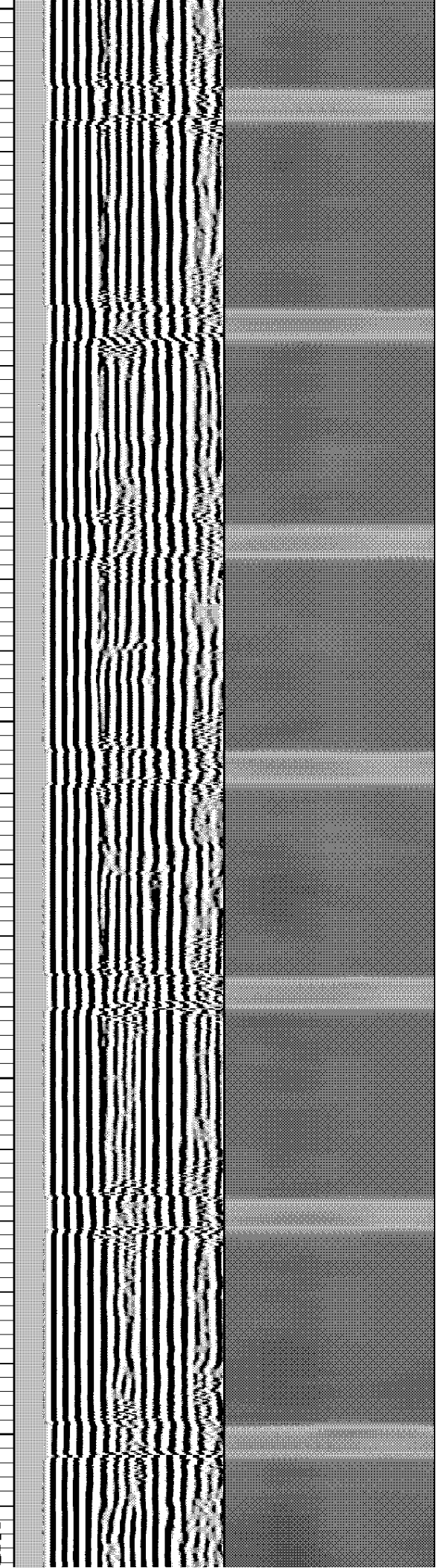
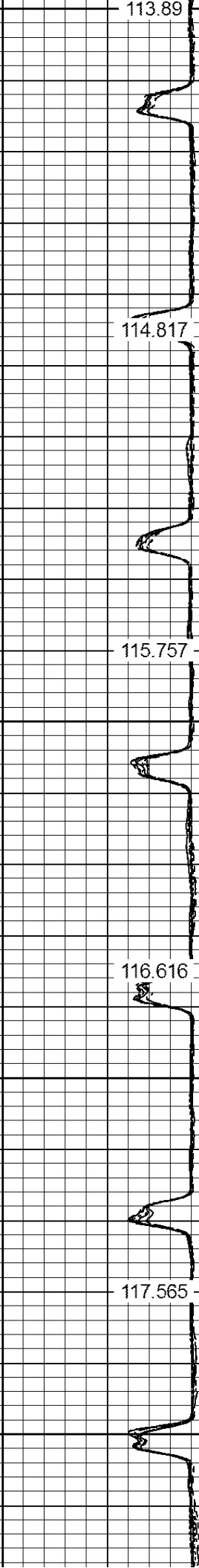
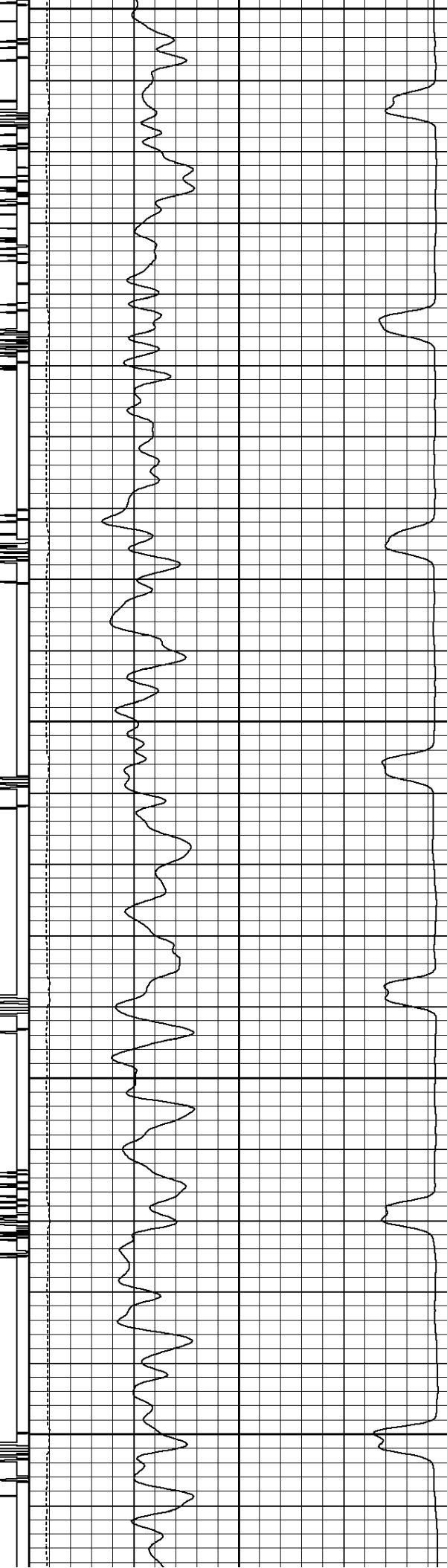




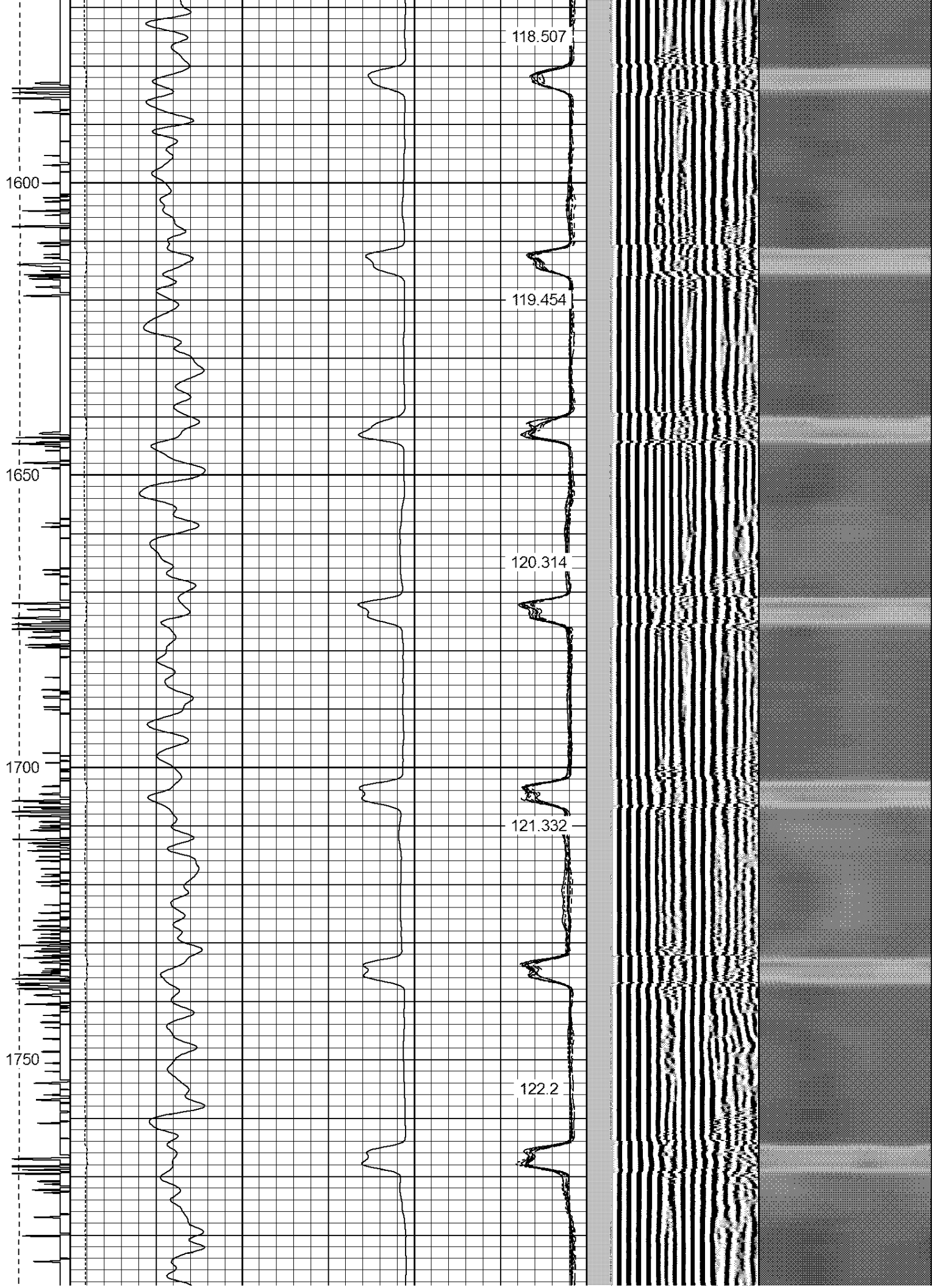


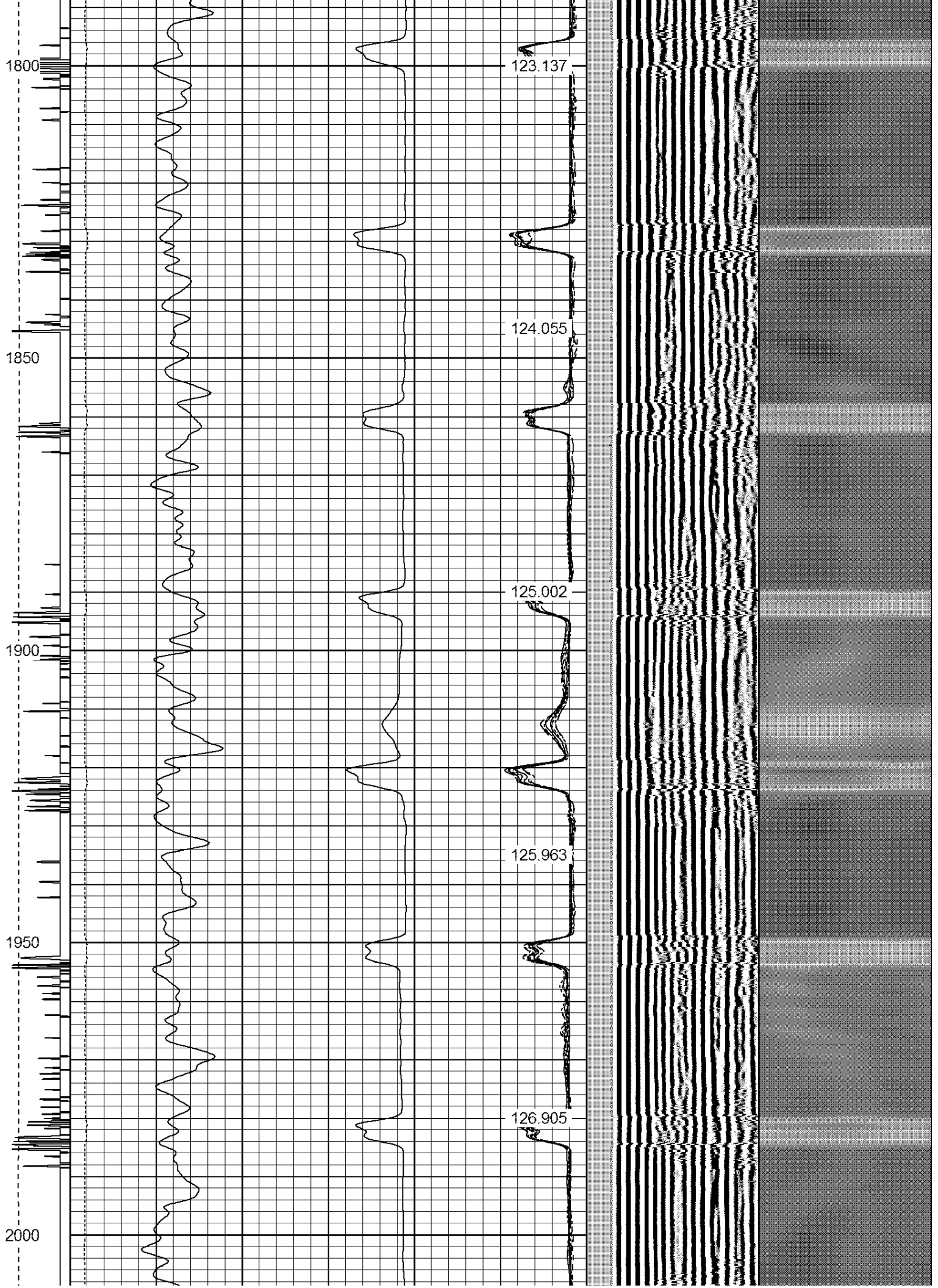


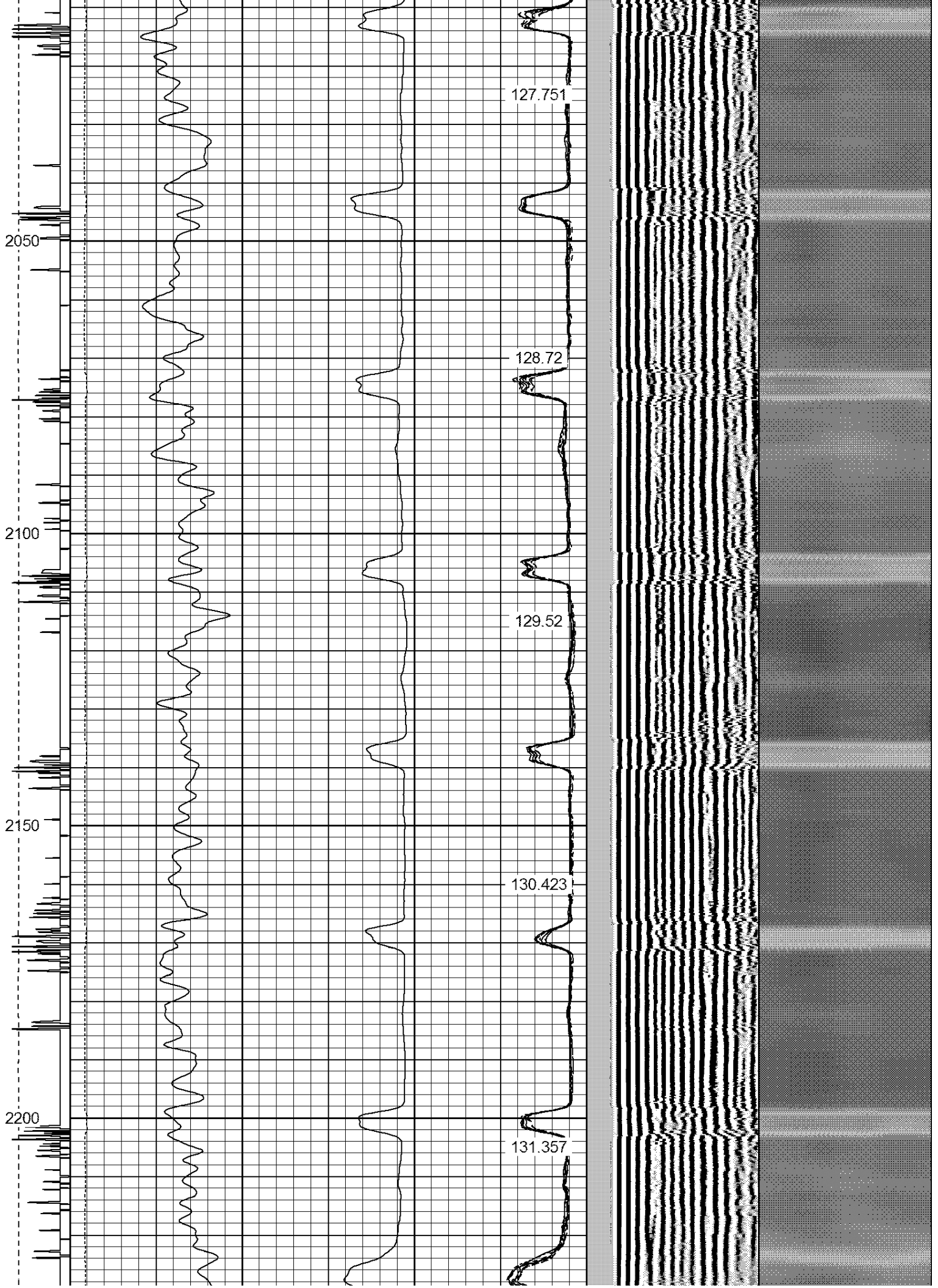
1350
1400
1450
1500
1550

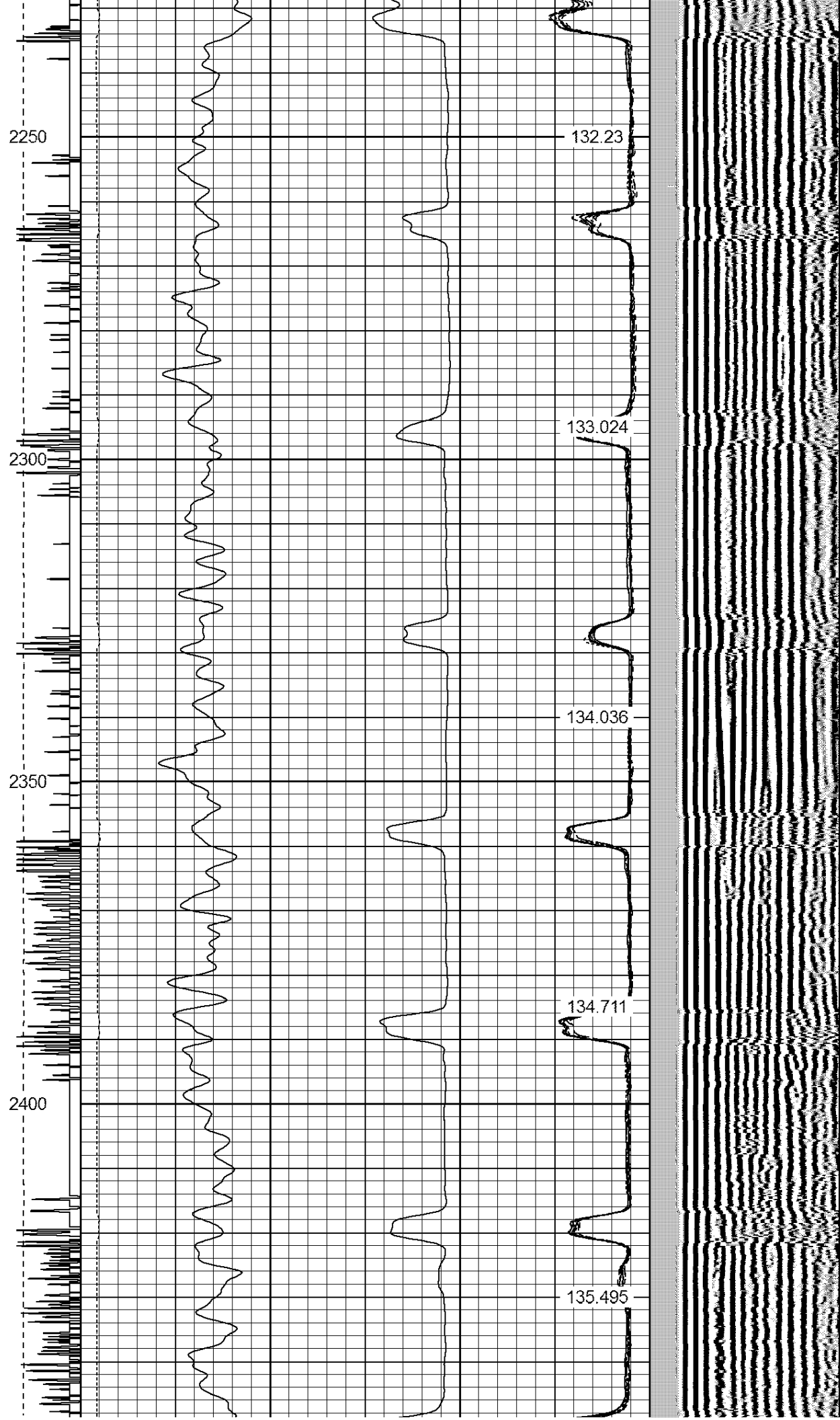


113.89
114.817
115.757
116.616
117.565

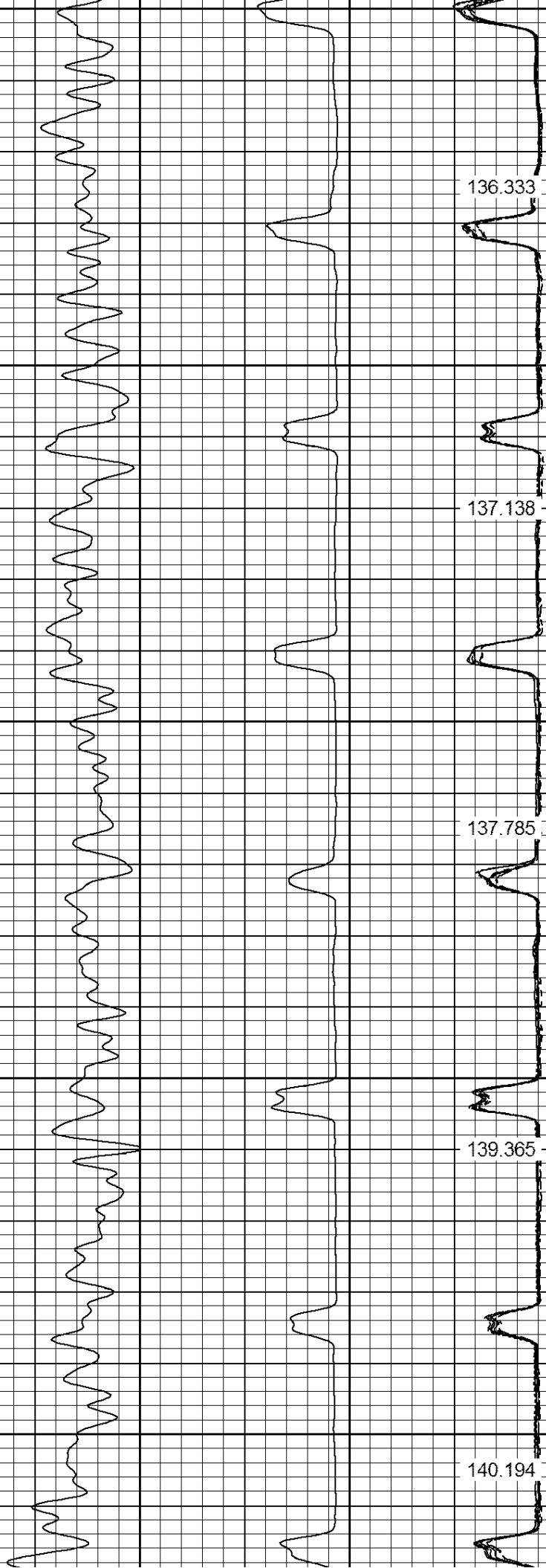








2450
2500
2550
2600
2650



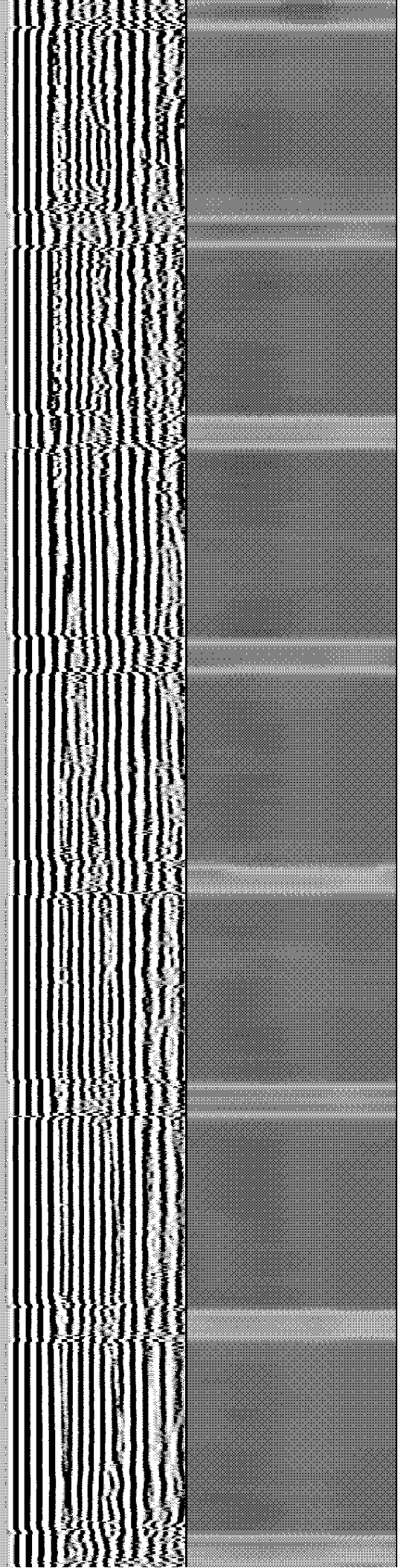
136.333

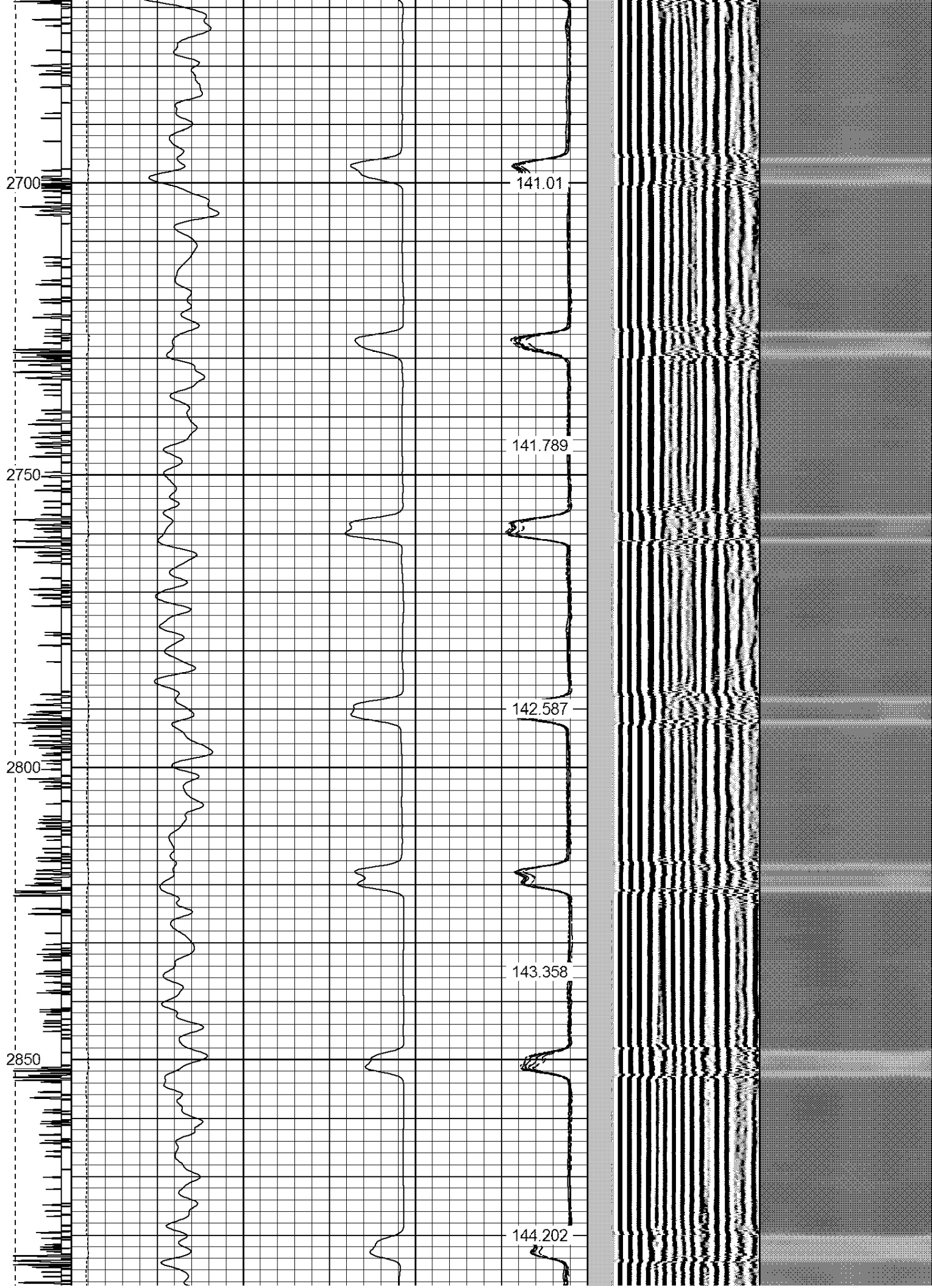
137.138

137.785

139.365

140.194





2900

Calibrated Free Pipe at 81Mv →

145.033

2950

145.792

3000

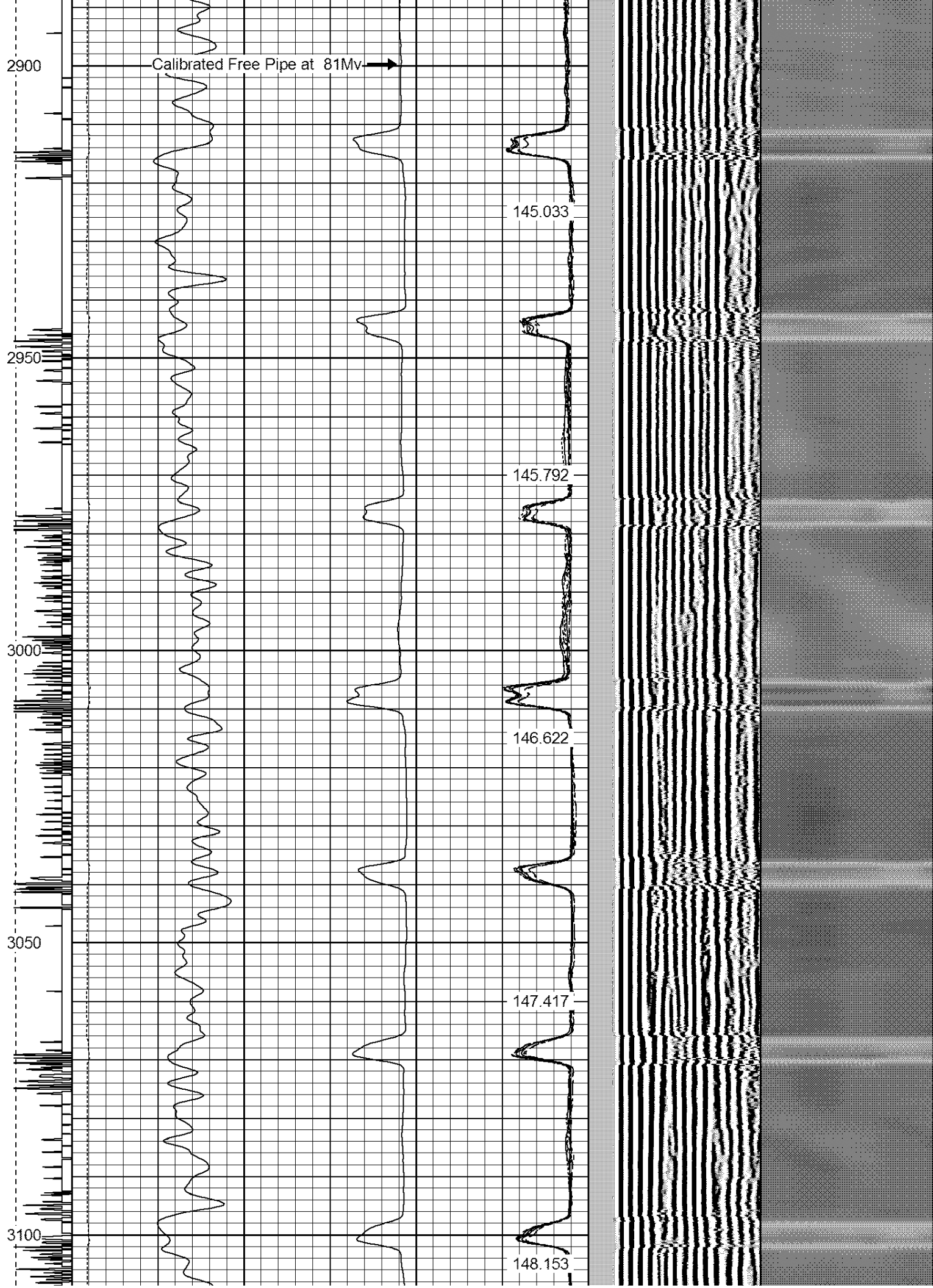
146.622

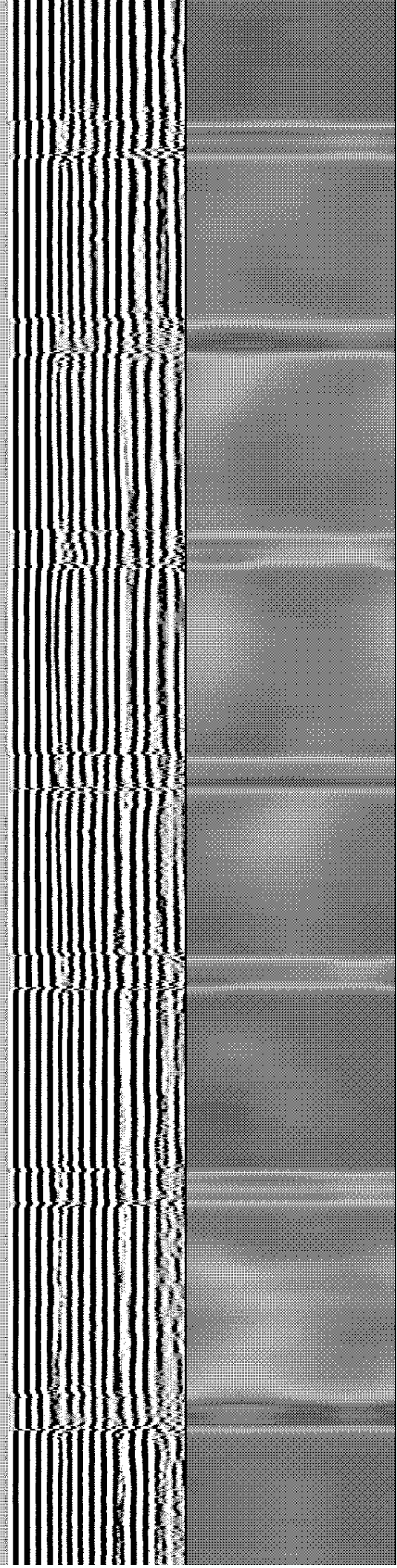
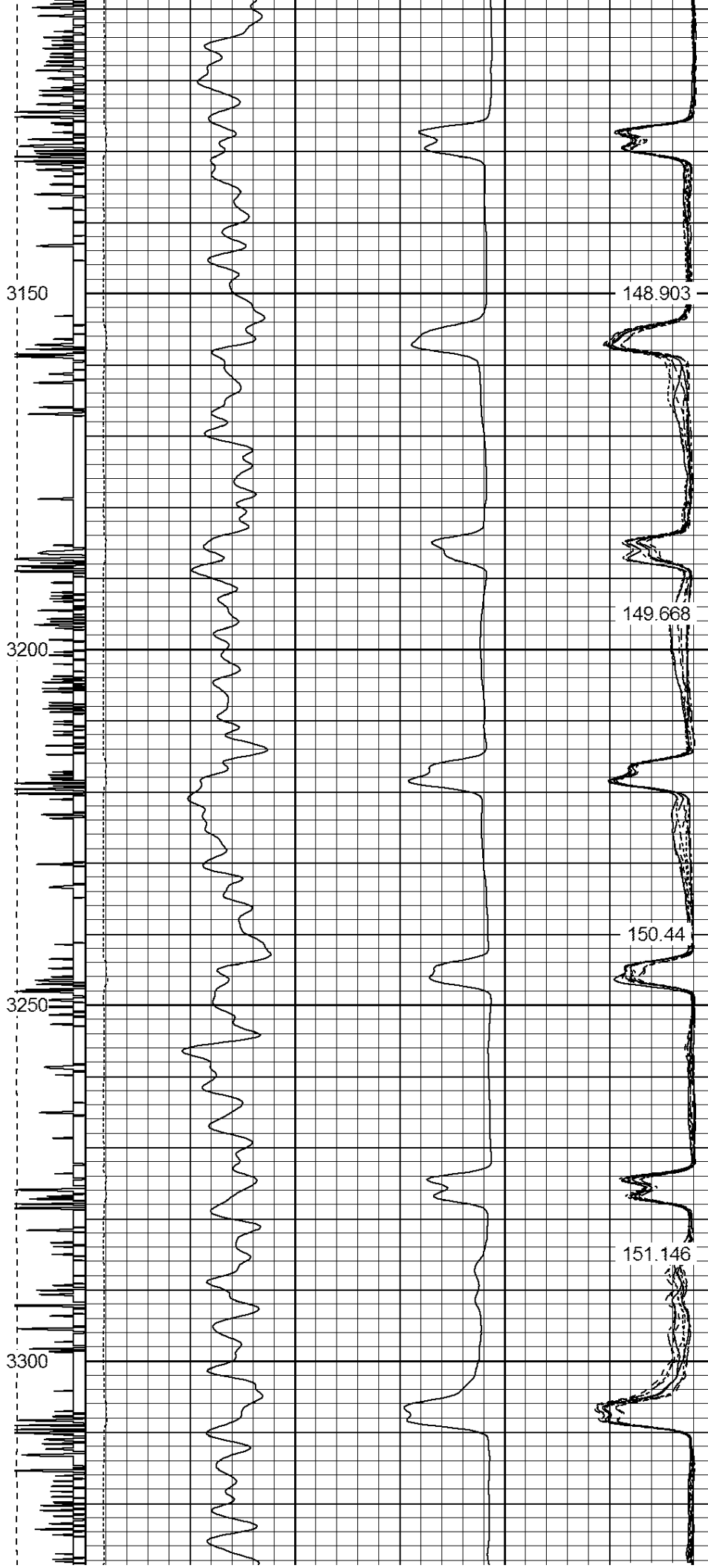
3050

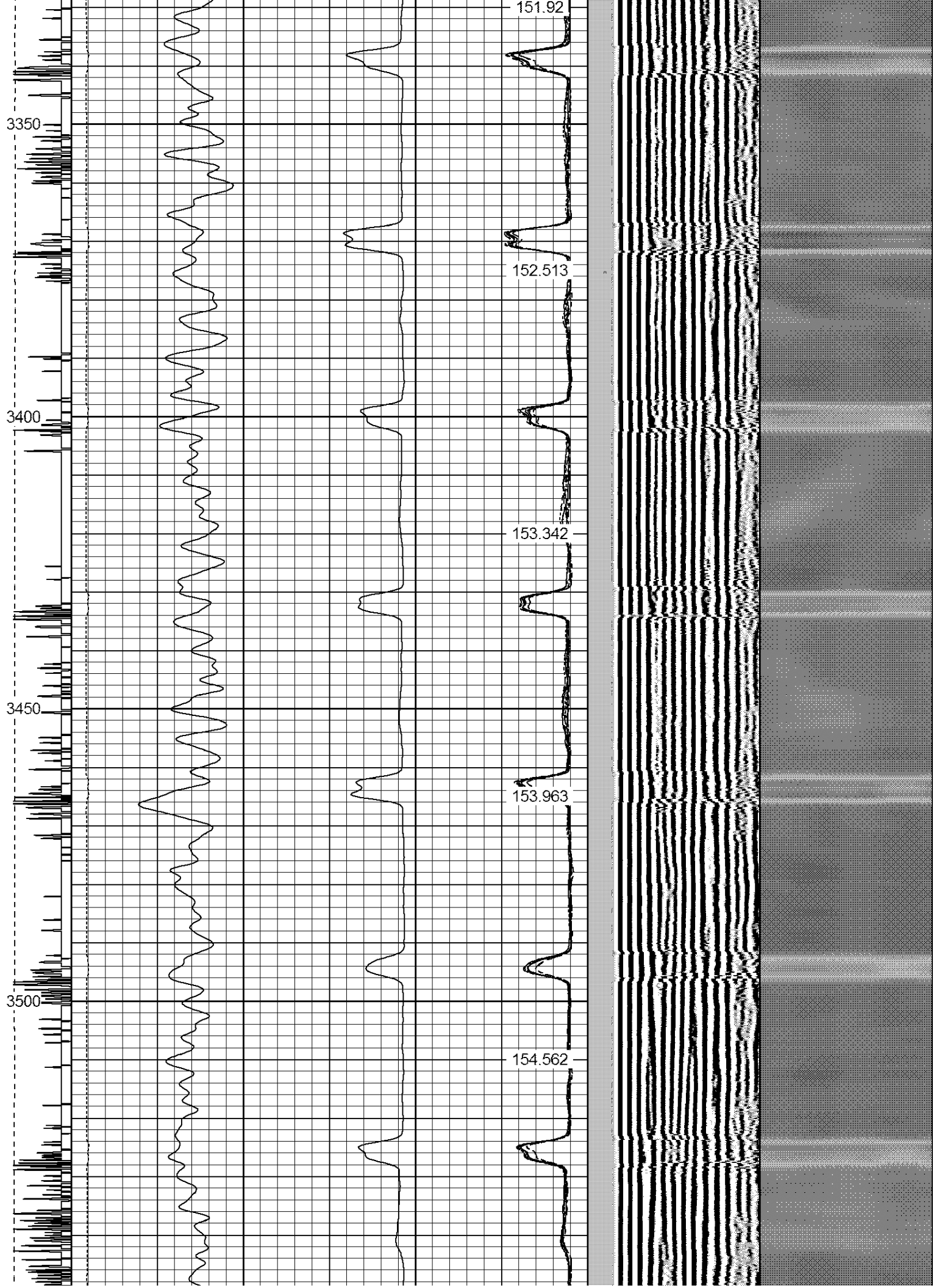
147.417

3100

148.153







3550

3600

3650

3700

3750

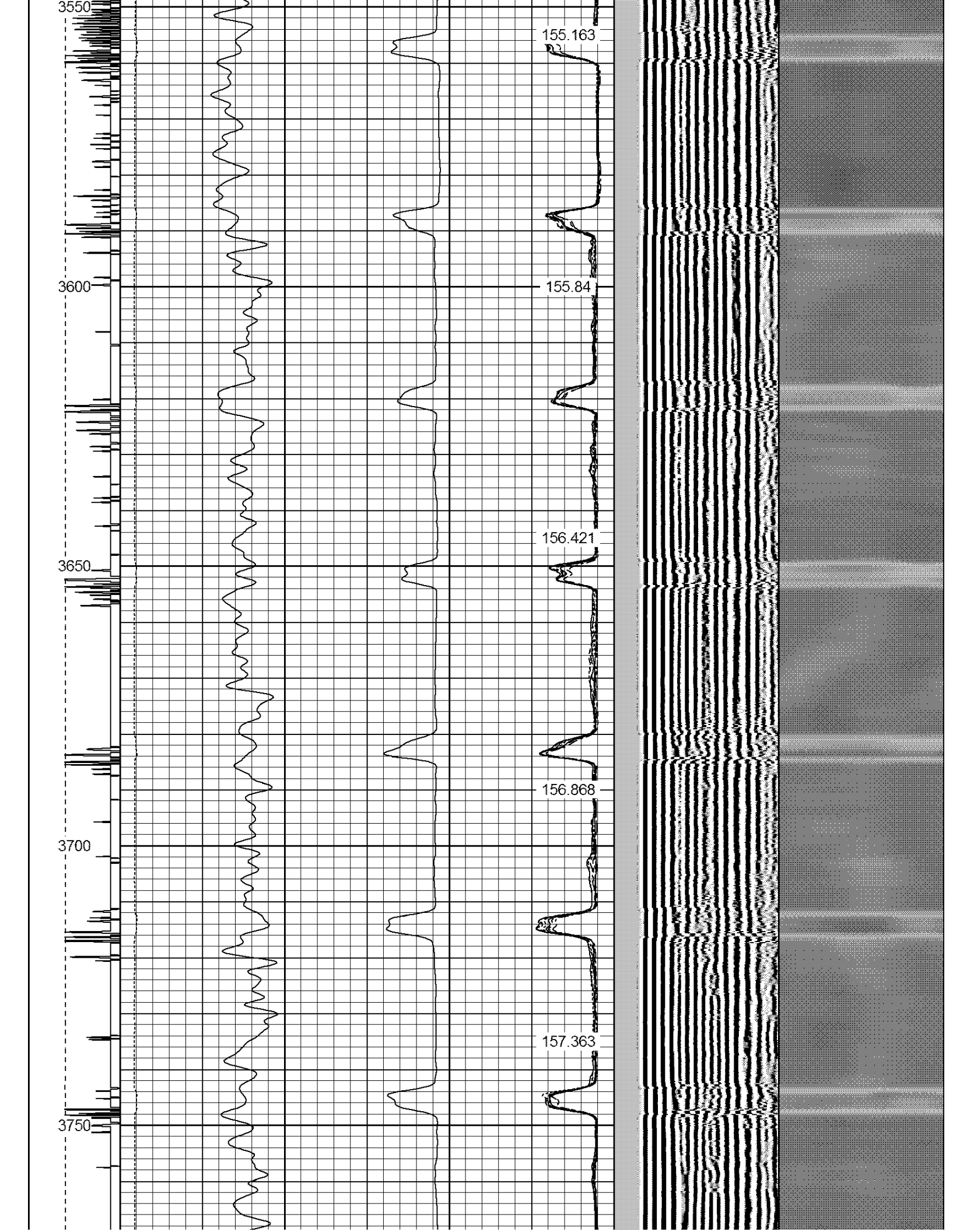
155.163

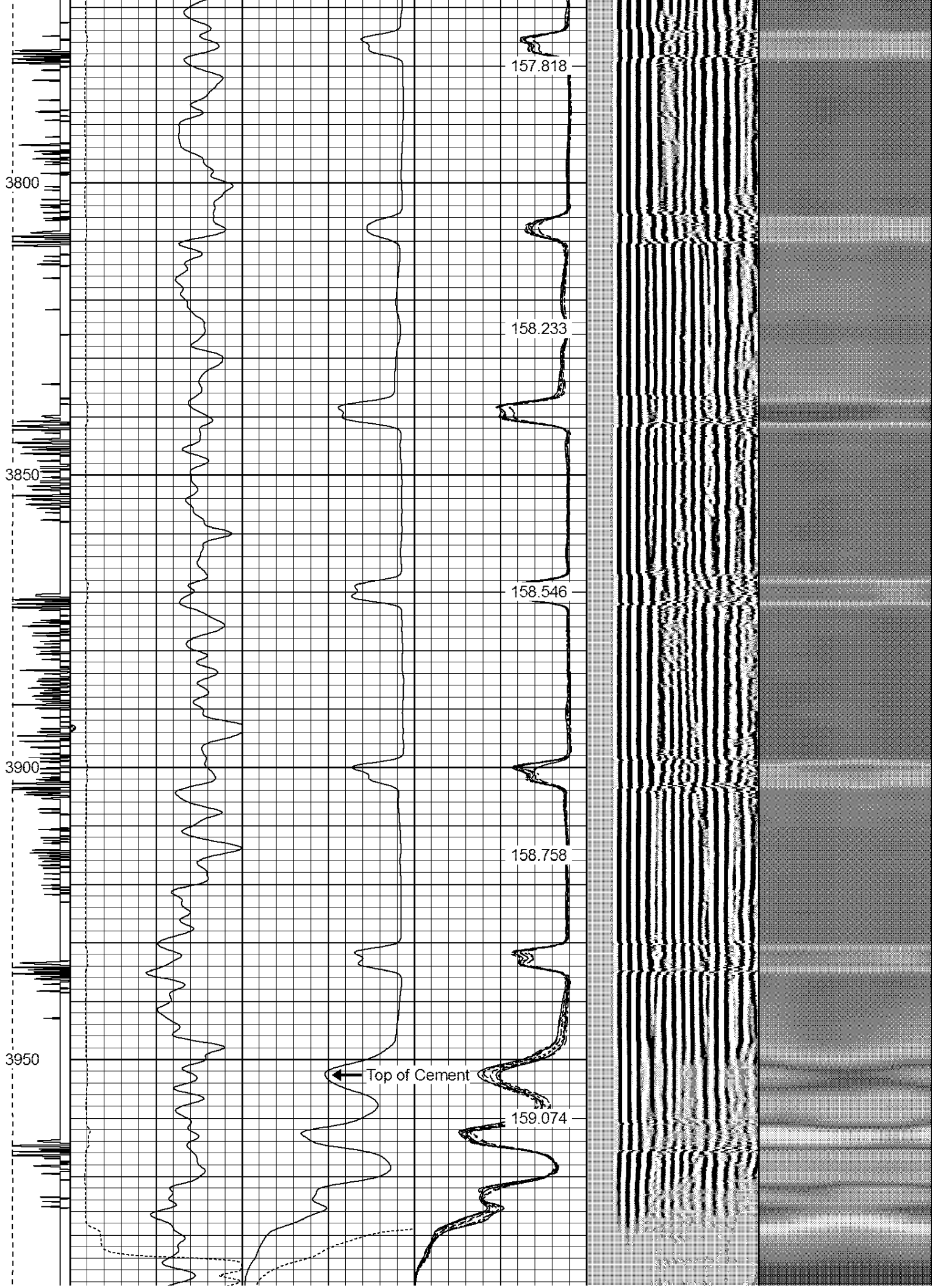
155.84

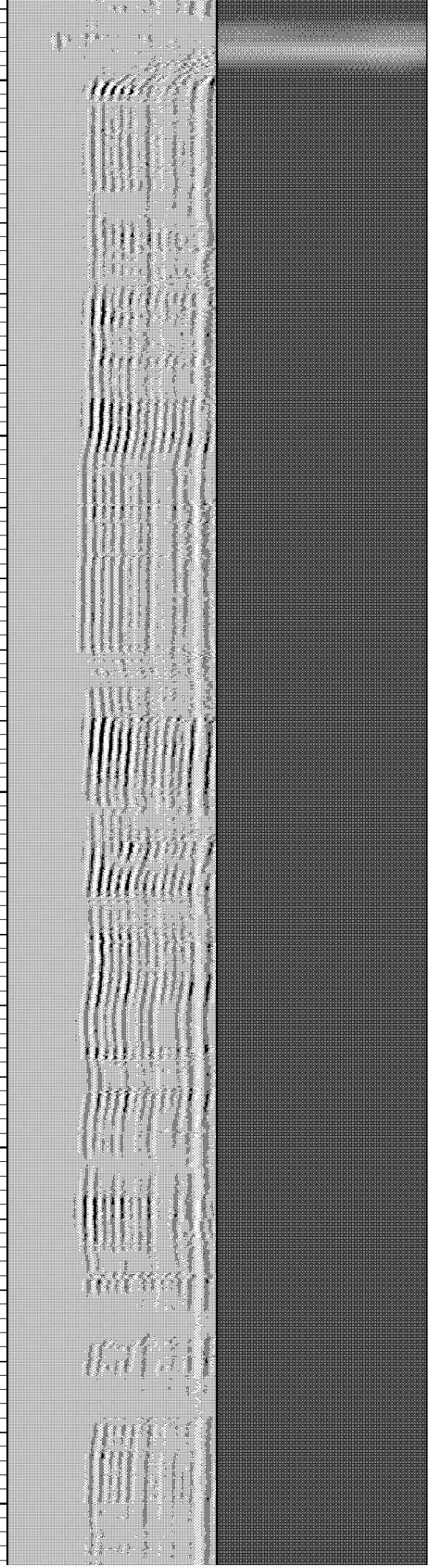
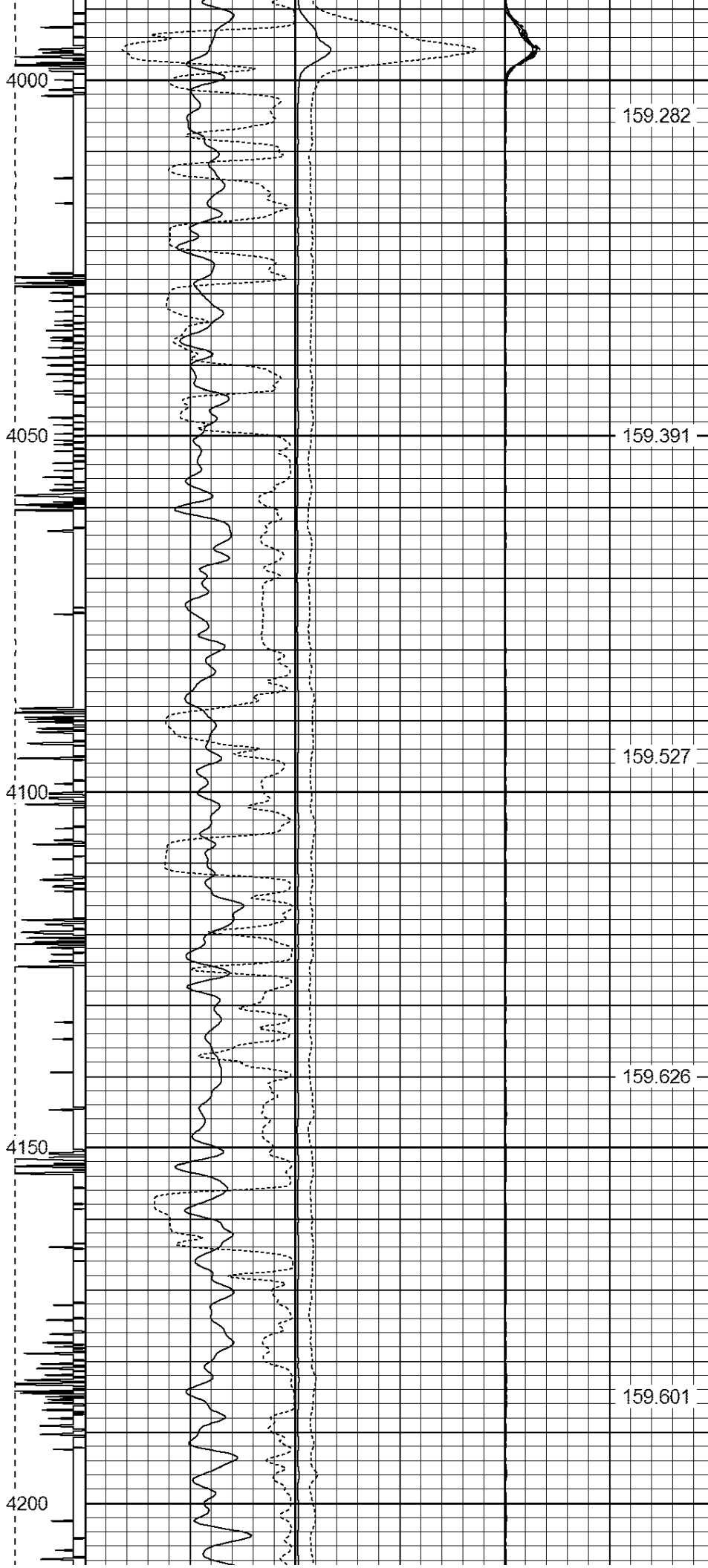
156.421

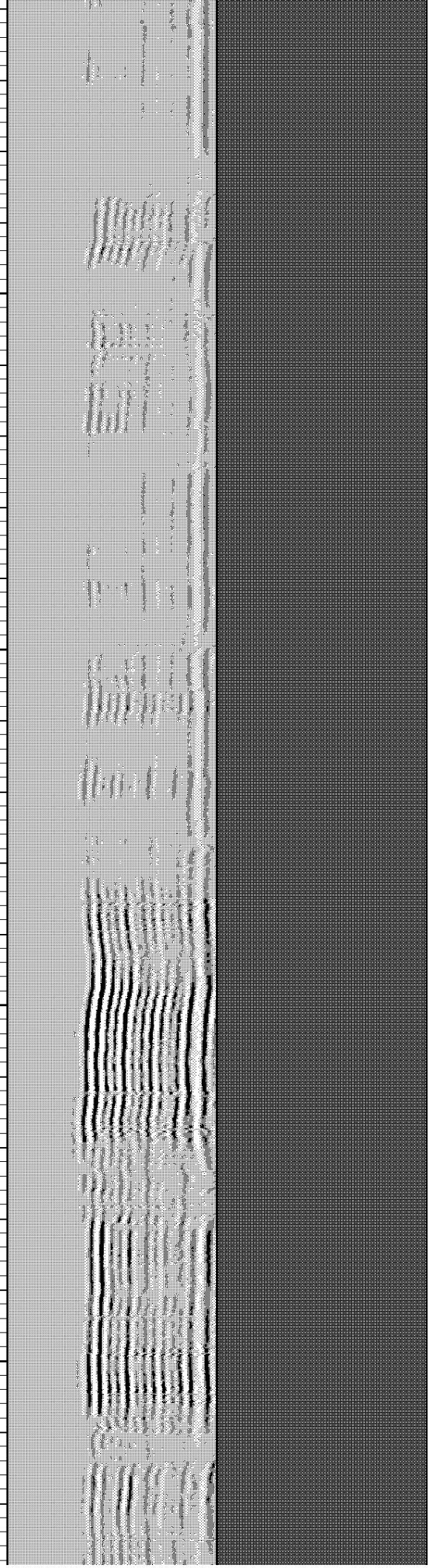
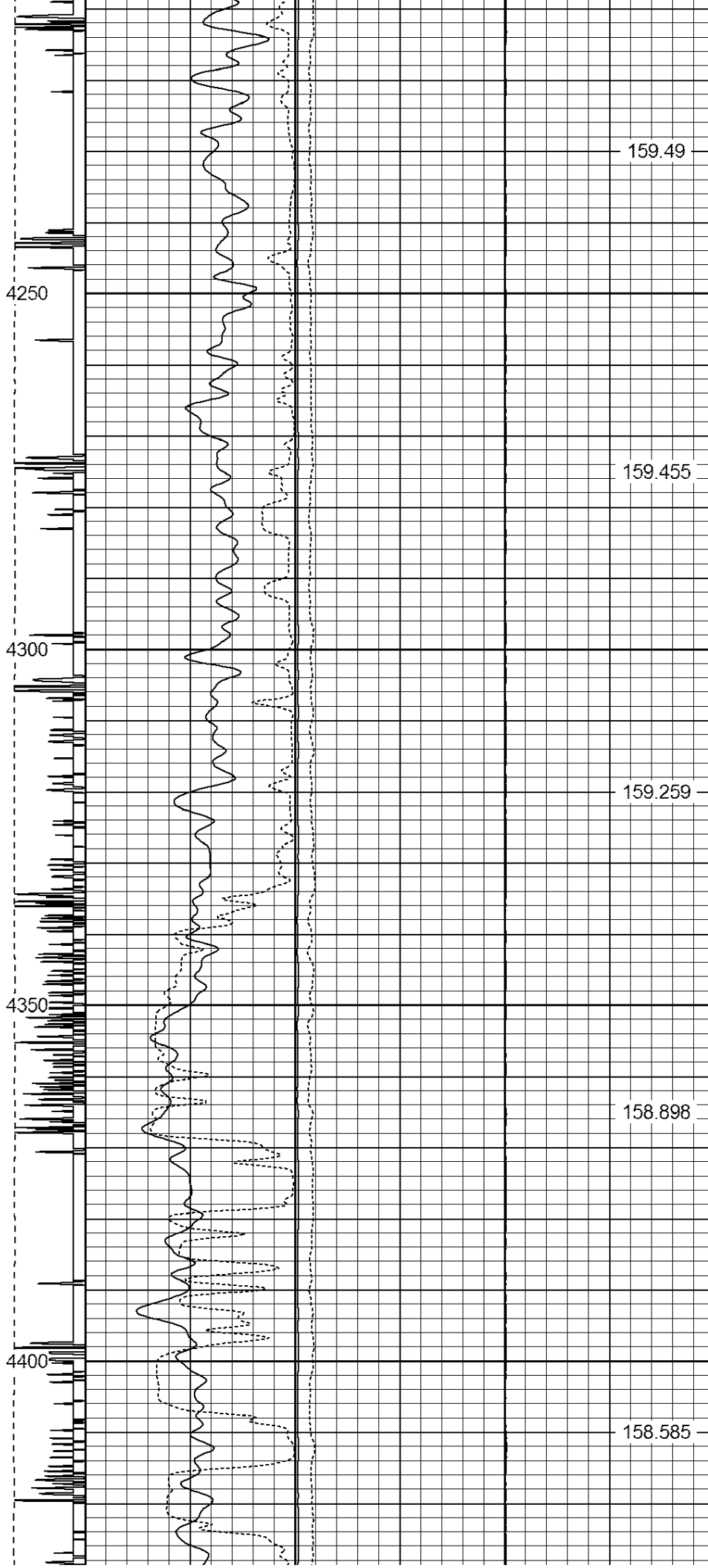
156.868

157.363









4450

158.169

4500

157.61

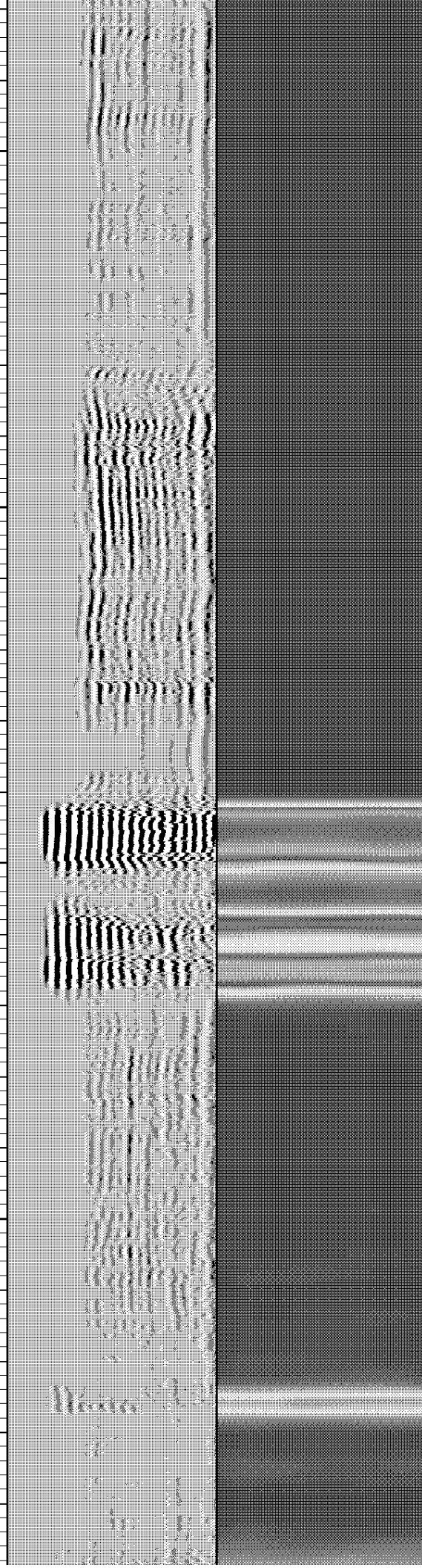
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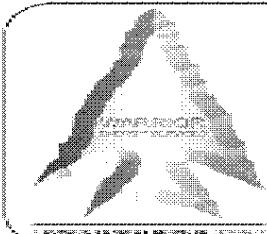
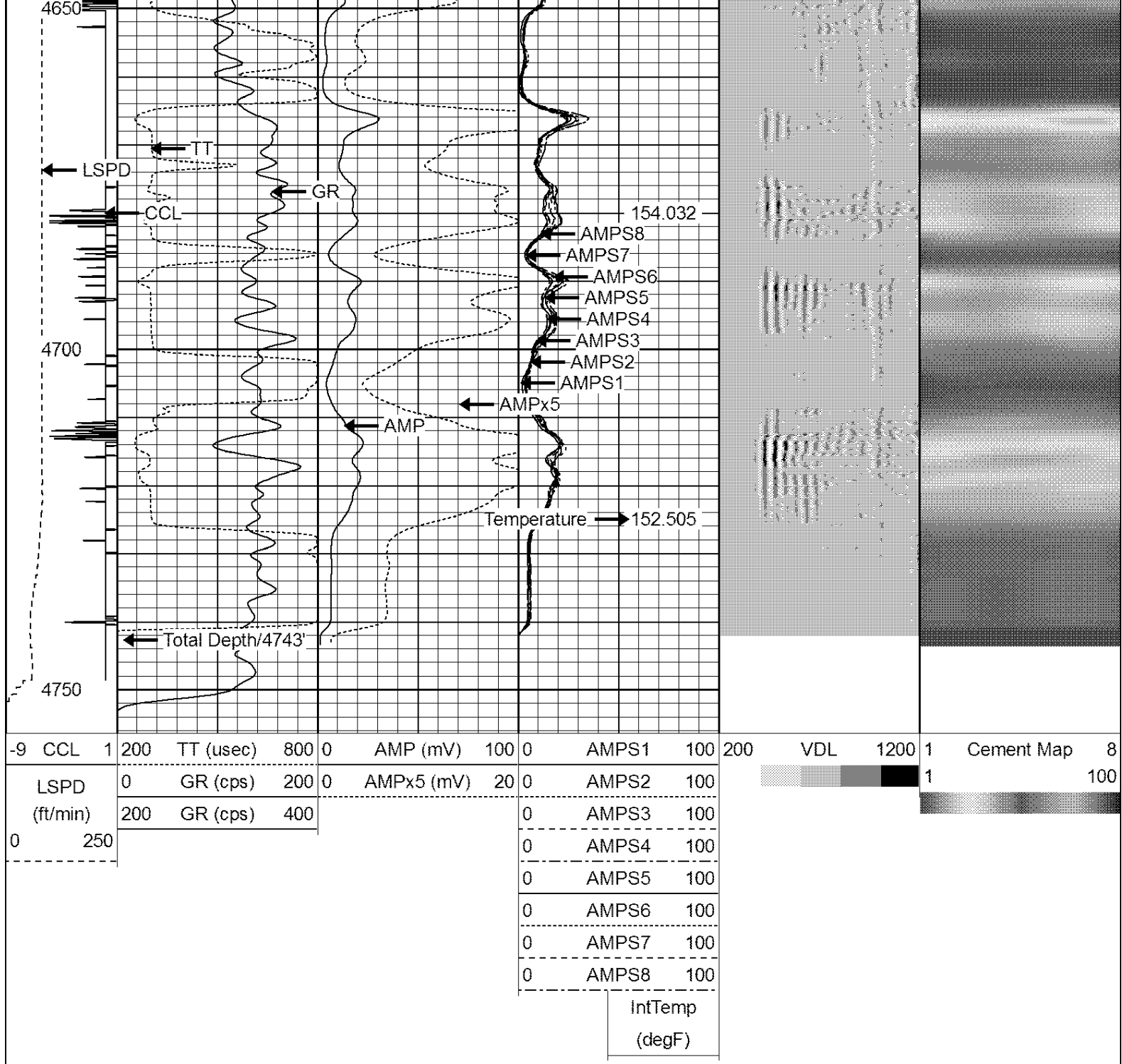
156.927

4600

156.195

155.215





WARRIOR
ENERGY SERVICES

Company KERR-McGEE OIL & GAS ONSHORE LP

Well BLUFFS RED W 5-5

Field WATTENBERG

County WELD

State COLORADO